

NCI Summer Curriculum in Cancer Prevention

Molecular Prevention Course

August 4 – 8, 2014

**9000 Rockville Pike
Building 45
Bethesda, MD 20892
301-435-1465**

Course Syllabus 2014

*U.S. Department of Health and Human Services
National Institutes of Health
National Cancer Institute
Division of Cancer Prevention
Cancer Prevention Fellowship Program*

NCI Summer Curriculum in Cancer Prevention

Molecular Prevention Course

Date: August 4 –8, 2014

Time: 8:30 a.m. to 10:00 a.m.
10:30 a.m. to 12:00 p.m.
1:00 p.m. to 2:30 p.m.
(Occasionally, lecture times will vary.)

Location: 9000 Rockville Pike
Building 35
Bethesda, MD 20892
301-435-1465

Course Director: David E. Nelson, MD, MPH, Director

Course Coordinators: Studly Auguste
Tamika McKay

Course presented by:
Cancer Prevention Fellowship Program David E. Nelson, MD, MPH,
Director

Division of Cancer Prevention
National Cancer Institute
National Institutes of Health
9609 Medical Center Drive, Suite 2W-136
Rockville, MD 20850
Telephone: 240-276-5626
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<http://cancer.gov/prevention/pob>

Program Staff:
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Educational Objective for Molecular Prevention Course

The overall objective of the course is to provide specialized instruction in the principles of molecular biology as applied to the field of cancer prevention. The course focuses on the concepts, methods, issues, and applications of molecular biology in cancer prevention efforts and the genetics of cancer. Participants will have an opportunity to gain a broad-based perspective of these subject areas, including basic laboratory methodology and theory of how molecular techniques are applied to molecular epidemiology, bionutrition, chemoprevention, biomarkers, and translational research. Lifelong learning skills include critical appraisal of molecular approaches, methodologies, and theories used in the field of cancer prevention.

After attending this activity, participants will be able to: outline and apply the principles of molecular biology in cancer prevention; describe the concepts and methods of molecular biology in the field of genetics of cancer; demonstrate theoretical knowledge of basic laboratory methodology and identify techniques in the areas of molecular epidemiology, bionutrition, chemoprevention, biomarkers, and translational research; discuss the process of translating laboratory research to cancer prevention; and interpret methodologies and theories used in the field of cancer prevention.

The target audiences are MD- and PhD-degree holders who were selected into the Cancer Prevention Fellowship Program, and MD- and PhD-degree holders with an interest in cancer prevention and control from the NIH and the NCI, national organizations, and foreign institutions.

If you have a disability and require any assistive devices, services, or other reasonable accommodations to participate in this activity, please contact the Cancer Prevention Fellowship Program at 240-276-5626 at least one week in advance of the lecture date to discuss your needs.

NCI Summer Curriculum in Cancer Prevention and Control

Molecular Prevention Course

Monday, August 4, 2014

8:30 a.m. – 8:45 a.m.	Introduction/Course Overview	David Nelson, MD, MPH
8:45 a.m. – 10:30 a.m.	Hallmarks of Cancer	Jessica Faupel-Badger, PhD, MPH
10:30 a.m. – 11:00 a.m.	Break	
11:00 a.m. – 12:30 p.m.	Molecular Pathology in Prevention Research	Mark Sherman, MD, MPH
12:30 p.m. – 1:30 p.m.	Group Photo and Lunch	
1:30 p.m. – 3:00 p.m.	Interweaving the Threads of microRNA, p53 and Inflammation Networks in Cancer and Aging: a Precision Medicine Strategy	Curtis Harris, MD

Tuesday, August 5, 2014

8:30 a.m. – 10:00 a.m.	Application of Molecular Markers to Population-based Studies	Jonine Figueroa, PhD, MPH
10:00 a.m. – 10:30 a.m.	Break	
10:30 a.m. – 12:00 noon	Human Tumor Immunity and Immunoprevention of Non-Viral Cancers	Olivera Finn, PhD
12:00 noon – 1:00 p.m.	Lunch	
1:00 p.m. – 2:30 p.m.	Early Detection Research Network	Sudhir Srivastava, PhD, MPH

Wednesday, August 6, 2014

8:30 a.m. – 10:00 a.m.	Aspirin, NSAIDs, and Cancer Prevention	Asad Umar, DVM, PhD
10:00 a.m. – 10:30 a.m.	Break	
10:30 a.m. – 12:00 P.m.	Epigenetics in Cancer Prevention	Rafael Guerrero-Preston, MD, PhD, MPH
12:00 p.m. – 1:00 p.m.	Lunch	

1:00 p.m. – 2:30 p.m.	Study of Human Microbiome and Cancer Prevention	Roberto Flores, PhD, MPH
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Thursday, August 7, 2014

8:30 a.m. – 10:00 a.m.	Vaccines for the Prevention of HPV-Associated Cancers	John Schiller, PhD
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10:00 a.m. – 11:00 a.m.	Break	
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11:00 a.m. – 12:30 p.m.	Diagnostic and Bioinformatic Tools for Preventing Lung Cancer	Avrum Spira, MD, MSc
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12:30 p.m. – 1:00 p.m.	Lunch	
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1:00 p.m. – 2:30 p.m.	Stem Cells and Cancer	Brid Ryan, PhD, MPH
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Friday, August 8, 2014

8:30 a.m. – 10:00 a.m.	Telomeres and Cancer	Sharon Savage, MD
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10:00 a.m. – 10:30 a.m.	Break	
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10:30 a.m. – 12:00 p.m.	Biomedical Informatics for Molecular Prevention Studies	Kenneth Buetow, PhD
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12:00 p.m. – 1:00 p.m.	Lunch	
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1:00 p.m. – 2:30 p.m.	Molecular Epidemiology Overview	Nathan Rothman, PhD
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2:30 p.m. – 3:00 p.m.	Closing Remarks	Dave Nelson, MD, MPH
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Faculty

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